

WHAT IS CLAIMED IS:

1. In a radio communications network including a base station communicating over a radio interface with a mobile station, a method comprising:

determining a timing adjustment;

effecting a change in a timing of the base station during a first time interval; and

effecting a change in a timing of the mobile station during a second time interval different from the first time interval.

2. The method in claim 1, wherein the determining step includes:

determining a difference between the base station timing and a radio network

controller timing, and

determining the timing adjustment based on the difference.

3. The method in claim 2, further comprising:

comparing the difference with a threshold, and

if the difference exceeds the threshold, determining the timing adjustment.

4. The method in claim 1, further comprising:

adjusting the base station timing incrementally during a first set of time intervals,

and

adjusting the mobile station timing incrementally during a second set of time intervals.

5. The method in claim 4, wherein the first set of time intervals correspond to one of odd and even time intervals and the second set of time intervals correspond to the other of the odd and even time intervals.

6. The method in claim 5, wherein the time intervals correspond to frames.

7. The method in claim 1, wherein the mobile station is in diversity handover with a first and a second base station, further comprising:

determining a timing adjustment for each of the first and second base stations;

00000000000000000000000000000000

5 8. A base station coupled to a radio network controller for communicating with
a mobile station over a radio interface, comprising:

10 for the base station to make a timing adjustment different from a second time period
allocated for the mobile station to make a timing adjustment.

15 may make a timing adjustment.

11. The base station in claim 9, wherein the data processing circuitry is configured to adjust the frame number counter during one or more even numbered frames while the mobile station may make a timing adjustment during one or more odd numbered frames.

25 clock. /

13. A mobile station for communicating with a base station over a radio interface, the base station being coupled to a radio network controller, comprising:

a mobile station timer; and

data processing circuitry configured to detect a timing signal from the base station and to adjust the mobile station timer in response to the detected timing signal during a first time period allocated for the mobile station to make a timing adjustment different
5 from a second time period allocated for the base station to make a timing adjustment.

14. The mobile station in claim 13, wherein the mobile station timer is a frame number counter, and the data processing circuitry is configured to adjust the frame number counter during a frame having a different number than a frame during which the base station may make a timing adjustment.

15. The mobile station in claim 14, wherein the data processing circuitry is configured to adjust the frame number counter during one or more odd numbered frames and the base station may make a timing adjustment during one or more even numbered frames.

16. The mobile station in claim 14, wherein the data processing circuitry is configured to adjust the frame number counter during one or more even numbered frames and the base station may make a timing adjustment during one or more odd numbered frames.

17. The mobile station in claim 13, wherein the mobile station timer is an internal clock.

18. In a mobile radio communications system including a network control node coupled to a base station, the base station communicating with a mobile station over a radio interface, a method of synchronizing timers in each of the mobile and base stations wherein the mobile station timer is adjusted at a different time than the base station timer.

19. The method in claim 18, wherein the mobile station timer is adjusted during one or more odd timing intervals and the base station timer is adjusted during one or more even timing intervals.

20. The method in claim 18, wherein the mobile station timer is adjusted during one or more even timing intervals and the base station timer is adjusted during one or more odd timing intervals.

add
03

C

CCITT